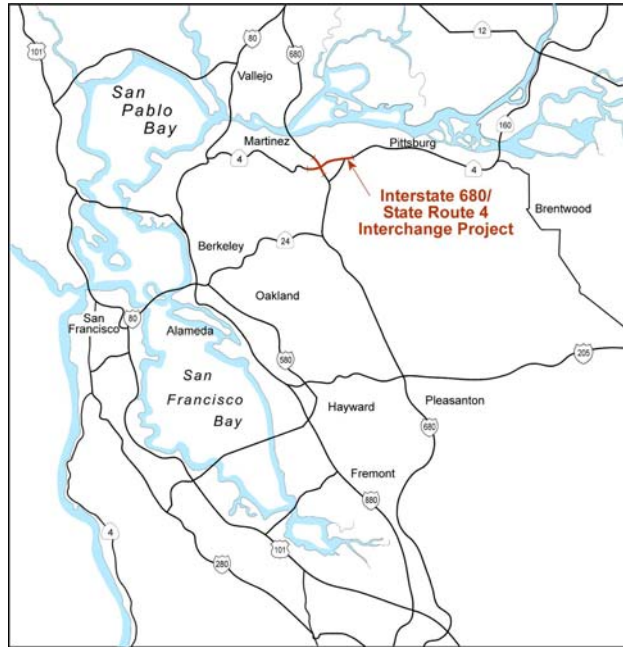


Interstate 680/State Route 4 Interchange Improvement Project



Draft Environmental Assessment (NEPA) and Initial Study (CEQA) / Proposed Negative Declaration

**Federal Highway Administration
California Department of Transportation, District 4
Contra Costa Transportation Authority**

**04-CC-680, KP 32.5/35.8 (PM 20.2/22.2)
04-CC-004, KP R16.9/R24.3 (PM R10.5/R15.1)
EA 229100**

May 2006



General Information About This Document

What's in this document?

This document is a *Draft* Environmental Assessment/Initial Study, which examines the potential environmental impacts of the proposed project located in Contra Costa County, California. The document describes why the project is being proposed, the existing environment that could be affected by the project, and potential impacts from each of the alternatives.

What should you do?

- Please read this Environmental Assessment/Initial Study Report.
- We welcome your comments. If you have any concerns regarding the proposed project, please attend the Public Information Meeting and/or send your written comments to the Contra Costa Transportation Authority (CCTA) by the deadline. Submit comments via regular mail to CCTA, Attn: Susan Miller, 3478 Buskirk Avenue, Suite 100, Pleasant Hill, CA, 94523, or submit comments via email to I680sr4comments@ccta.net.
- Submit comments by the deadline: September 22, 2006.

What happens after this?

After comments are received from the public and reviewing agencies, CCTA and Caltrans may (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project were given environmental approval and funding were appropriated, CCTA and Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Melanie Brent, Office Chief, Office of Environmental Analysis, P.O. Box 23660, Oakland, CA, 94623-0660, email: Melanie_Brent@dot.ca.gov, or use the California Relay Service TTY number (800-735-2929).

State Clearinghouse Number: TBA
04-CC-680, KP32.5/35.8
04-CC-004, KP16.9/24.3
EA 229100

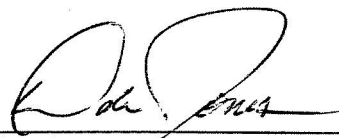
Located at the interchange of
Interstate 680 (Kilometer Post 32.5/35.8)
and
State Route 4 (Kilometer Post R16.9/24.3)

**ENVIRONMENTAL ASSESSMENT (NEPA)
and
INITIAL STUDY (CEQA) / PROPOSED NEGATIVE DECLARATION**

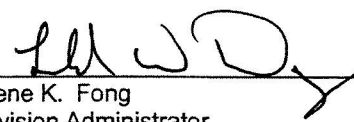
Submitted Pursuant to: (State) Division 13, California Public Resources Code and
(Federal) 42 USC 4332(2)(C) and 49 USC 303

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
THE STATE OF CALIFORNIA
Department of Transportation, and
CONTRA COSTA TRANSPORTATION AUTHORITY

5/7/06
Date of Approval


Dale Jones
Acting Deputy District Director,
Environmental
California Department of Transportation

5/19/2006
Date of Approval


for Gene K. Fong
Division Administrator
Federal Highway Administration



Negative Declaration (ND)

Pursuant to: Division 13, Public Resources Code

Project Description

The proposed project is to construct a phased sequence of improvements to the I-680/SR-4 interchange in Contra Costa County, California, to alleviate operational deficiencies currently experienced through the facility.

The project would consist of five phases of improvements. All phases are included in the MTC's *Transportation 2030 Plan* (MTC 2005). The plan anticipates that Phases 1 and 2 will be operational by 2015 and Phases 3 through 5 will be operational by 2025. Phase 1 would construct a two-lane flyover direct connector from northbound I-680 to westbound SR-4. The existing northbound I-680 to westbound SR-4 loop would be removed. Phase 2 would construct a two-lane connector from eastbound SR-4 to southbound I-680. The current eastbound SR-4 to southbound I-680 diagonal ramp would be removed. Both Phases 1 and 2 would provide new direct local access to and from I-680.

Phase 3 would add a new lane to the median in both the eastbound and westbound directions of SR-4 within the project limits to provide additional weaving capacity. Phase 4 would replace the southbound I-680 to eastbound SR-4 loop ramp with a direct connector and remove the existing southbound I-680 to eastbound SR-4 loop ramp. It would also construct an auxiliary lane on eastbound SR-4 from the connector to the Solano Way off-ramp. Phase 5 would replace the existing one-lane northbound I-680 to eastbound SR-4 diagonal ramp with a slightly relocated two-lane diagonal ramp, replace the westbound SR-4 to northbound I-680 diagonal ramp with a two-lane diagonal connector, and widen the westbound SR-4 to southbound I-680 loop ramp from a single lane to two lanes.

Determination

Caltrans has prepared an Initial Study (IS) for compliance with the California Environmental Quality Act (CEQA). On the basis of that study, it has been

determined that the proposed project would not have a significant impact upon the environment for the following reasons:

- The proposed project would have no impacts on Agricultural Resources, Cultural Resources, Land Use and Planning, Mineral Resources, Public Services, and Recreation.
- The proposed project would have a less-than-significant impact on Air Quality, Hazards and Hazardous Materials, Transportation and Traffic, and Utility and Service Systems.
- Potential impacts to Aesthetics (including the appearance of new soundwalls and tree removal), Biological Resources (including wetlands and fisheries), Geology and Soils, Hydrology and Water Quality, Flood Risk, Noise, and Population and Housing would be mitigated to less-than-significant levels.

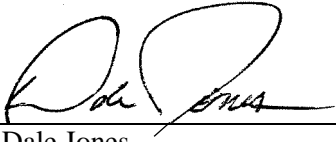
The proposed project would employ impact avoidance and minimization measures as part of the project design, as well as the following mitigation measures to reduce potential impacts to the environment:

- **Aesthetics:** Landscape planning and subsequent landscaping would be incorporated into the project design, including the placement of trees, shrubs, and groundcover within the project right-of-way. Soundwalls and retaining walls will be aesthetically treated with color, texture and patterns to help the walls blend into the environment and provide visual unity for the corridor. Soundwalls could be treated with vine plantings to reduce glare and graffiti and to enhance aesthetics. Aesthetic wall treatments will be similar to existing walls within the highway corridors. The design and aesthetic treatment of the overhead freeway structure (including the flyover and its ramps, columns, walls, etc.) shall be determined with input from public outreach meeting(s) to be held during the design phase of the project.
- **Biological Resources:** The total wetland permanent impacts are relatively small and would be mitigated. Wetlands and waters of the United States outside of the construction zone but on the border or nearby will be fenced off and designated for avoidance. Work within Grayson and Walnut Creeks will be seasonally restricted to the dry season (a “work window” of June 1 to October 31) to avoid potential impacts to the Central Valley evolutionarily significant unit (ESU) steelhead and chinook salmon. Work within a given area of the creeks shall be

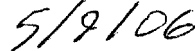
limited to a single work window to avoid long-term effects. Work should occur only in a dry channel. If work in a live stream is necessary, the construction work space will be isolated from flowing water, shall not dewater the entire stream, and will allow fish passage through the project area. On-site mitigation opportunities for permanent, unavoidable wetland fill are limited, but off-site conservation banks and in-lieu fees are identified that may provide compensatory mitigation.

- **Geology and Soils:** Geotechnical and foundation studies will be performed for the final design, and the recommendations will be incorporated into the project plans. Project structures will be designed for seismic loading identified in the geotechnical studies.
- **Water Quality:** Construction requirements for water quality are the conditions of the National Pollutant Discharge Elimination System (NPDES) permit, other planning agreements, and the county storm water management programs. A Storm Water Pollution Prevention Plan (SWPPP) will be developed and approved for this project and applied to project construction. The SWPPP will include best management practices (BMPs) for erosion and runoff controls, which will be incorporated into the project design and operations controls prior to project construction. Long-term mitigation will meet NPDES discharge requirements for permanent Design Pollution Prevention BMPs for soil stabilization and storm water runoff treatment.
- **Flood Risk:** Existing flood risk would not be substantially changed by the project, and design measures can be incorporated to reduce the profile of the structure with respect to water passage.
- **Noise:** Soundwalls would be constructed to mitigate for long-term noise impacts. Construction contract requirements will include work restrictions.
- **Population and Housing:** Relocation assistance, including finding and obtaining replacement housing, relocation and business impact payments, and relocation services and counseling would be provided to eligible persons and businesses in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act, as amended.

- Transportation and Traffic: Contractor requirements will include measures to avoid and minimize regional and local traffic disruption through notification of upcoming work and posting of detour or closure plans.



Dale Jones
Acting Deputy District Director, Environmental
California Department of Transportation



Date

Summary

The California Department of Transportation (Caltrans) is the lead California Environmental Quality Act (CEQA) agency for the project, and the Federal Highway Administration (FHWA) is the lead National Environmental Policy Act (NEPA) agency. In this project, the Contra Costa Transportation Agency (CCTA), Caltrans, and FHWA propose to make a phased sequence of improvements to the Interstate 680 (I-680)/State Route 4 (SR-4) interchange in Contra Costa County, California, to alleviate operational deficiencies currently experienced throughout the interchange. The configuration of the existing interchange, coupled with less-than-desirable interchange spacing on SR-4, does not adequately handle existing traffic and will not meet anticipated future need. Improvements to the interchange are needed to improve safety and increase capacity to decrease congestion and accommodate both near-term and design year (2030) traffic volumes, while improving the efficiency of related widening projects within the project vicinity.

Five phases of improvements for this interchange have been identified that can be implemented independently as funding is available. The *proposed project* refers to all five phases, although each of the phases could be constructed alone and meet the purpose and need. All five phases are included in the Metropolitan Transportation Commission's (MTC's) long-range *Transportation 2030 Plan* (MTC 2005). Phases 1 and 2 are the highest priorities for this interchange, and will be included in MTC's 2007 Transportation Improvement Program (TIP)¹ for initial right-of-way acquisition.

- Phase 1 – Construct a two-lane flyover direct connector from northbound I-680 to westbound SR-4. The northbound I-680 to westbound SR-4 loop ramp would be removed in this phase.
- Phase 2 – Construct a two-lane connector from eastbound SR-4 to southbound I-680. The current eastbound SR-4 to southbound I-680 diagonal ramp would be removed. Both Phases 1 and 2 would provide new direct local access to and from I-680.
- Phase 3 – Widen SR-4 within the project limits to add eastbound and westbound lanes to improve on-ramp and off-ramp merging actions.

¹ MTC's *Transportation 2030 Plan* (MTC 2005) serves as the current program for long-range planning of Bay Area transportation projects over the next 25 years while the TIP identifies the region's priorities for specific project funding.

- Phase 4 – Replace the southbound I-680 to eastbound SR-4 loop ramp with a two-lane flyover direct connector. Construct an auxiliary lane on eastbound SR-4 from the connector to the Solano Way off-ramp.
- Phase 5 – Replace the westbound SR-4 to northbound I-680 single-lane diagonal ramp with a new two-lane diagonal connector. Replace the northbound I-680 to eastbound SR-4 single-lane diagonal ramp with a two-lane relocated diagonal connector. Widen the westbound SR-4 to southbound I-680 loop ramp from a single lane to two lanes.

Cumulative impacts are identified and evaluated in distinct subsections of this document. That evaluation consists of all five phases of the interchange improvement project considered together with other proposed projects. Other recent and planned projects that were considered for cumulative impacts included the new high-occupancy vehicle (HOV) lanes added to I-680 between Martinez and Walnut Creek, the new (second) Benicia-Martinez Bridge, the Burlington Northern–Santa Fe Railroad crossing reconstruction, local road improvements at Pacheco Boulevard and Arnold Drive, and improvements in eastern Contra Costa County to SR-4.

This Draft Environmental Assessment/Initial Study (EA/IS) addresses the proposed action's potential to have adverse impacts on the environment that are mitigated to less-than-significant impacts. Potential impacts and mitigation/minimization measures are summarized in Table S-1 (see next page).

This EA/IS has been prepared to meet the requirements of NEPA and CEQA. The project is also subject to other Federal, State, and local laws, policies, and guidelines that are addressed in this document. Applicable regulatory consultation or approvals have been completed or identified from the U.S. Fish and Wildlife Service (concurrence received that the project is unlikely to impact red-legged frog), U.S. Army Corps of Engineers (Nationwide Permit authorization required), National Oceanic and Atmospheric Administration (provided construction impact avoidance measures), State Historic Preservation Officer (consultation concluded that the project would not affect any historic property), California Department of Fish and Game (Streambed Alteration Agreement permit required), Regional Water Quality Control Board and State Water Resources Control Board (a water quality certification or waiver, and NPDES permit required).

Table S-1 Summary of Major Potential Impacts From Alternatives

Potential Impact		Phases 1 and 2		Phases 3, 4, 5	No Build Alternative	Cumulative	Mitigation/ Minimization
		Without Slip Ramps*	With Slip Ramps*				
Land Use	Consistency with the Martinez General Plan	Yes	Yes	Yes	Yes	None	None
	Consistency with the Contra Costa County General Plan	Yes	Yes	Yes	Yes	None	None
Farmland		None	None	None	None	None	None
Social and Economic		Increased capacity on roadways	Increased capacity on roadways	Increased capacity on roadways	None	No additional impacts	None
Relocation	Business Displacements	Portions of several properties required that do not affect continued use. One partial take affecting a warehouse might be necessary. A Caltrans-owned property currently leased to a self-storage business would not have its lease renewed.	Same, but with the addition of a full take of a truck camper/shell business/parcel, and the partial take of some parking spaces at a retail business on Pacheco Blvd.	None	None	No additional impacts	Assistance would be provided in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Polices Act
	Housing Displacements	Residents of 5 to 7 homes may be relocated	Residents of 5 to 7 homes may be relocated	None	None	No additional impacts	Assistance would be provided in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Polices Act
	Utility Service Relocation	Sanitary sewer line along Berry Drive would be relocated	Sanitary sewer line along Berry Drive would be relocated	None	None	None	No service disruption would result
Air Quality		Fugitive dust during construction	Fugitive dust during construction	Same as Phases 1 and 2	None	No additional impacts	Dust control practices listed in Section 2.3.5 would be incorporated

* Slip ramps are entry or exit ramps that connect local streets with freeway-to-freeway direct connector ramps.

Table S-1 Summary of Major Potential Impacts From Alternatives

Potential Impact	Phases 1 and 2		Phases 3, 4, 5	No Build Alternative	Cumulative	Mitigation/ Minimization
	Without Slip Ramps*	With Slip Ramps*				
Noise	Noise level would increase by 1 decibel. Existing and future noise levels will exceed thresholds for consideration of noise abatement at some locations	Noise level would increase by 1 decibel. Existing and future noise levels will exceed thresholds for consideration of noise abatement at some locations	Same as Phases 1 and 2	None	All five phases of interchange plus existing traffic and new I-680 HOV lane considered in evaluation.	Soundwalls are included where they meet minimum sound abatement criteria and were determined to be cost-effective. Measures outlined in Section 2.4.5 would minimize construction impacts
Waterways and Hydrologic Systems	Drainage patterns would change	Drainage patterns would change	Same as Phases 1 and 2	None	No additional impacts	Retention basins would be added to design (Section 2.12.5)
Water Quality	Construction activities could increase organic pollutants or suspended/ dissolved solids in nearby creeks or Contra Costa Canal	Construction activities could increase organic pollutants or suspended/ dissolved solids in nearby creeks or Contra Costa Canal	Same as Phases 1 and 2	None	No additional impacts	Pollution control and soil erosion measures would be taken; and a Storm Water Pollution Prevention Plan would be implemented during construction (see Section 2.12.5)
Wetlands and Waters of the United States	0.005 ha (0.011 acre) of wetlands would be permanently impacted	0.005 ha (0.011 acre) of wetlands would be permanently impacted	0.004 ha (0.012 acre) of wetlands would be permanently impacted	None	0.009 ha (0.023 acre) wetland impacts by all 5 phases. (Total cumulative permanent fill is under the 0.2 ha [0.5 acre] limit consistent with a USACE Nationwide Permit #14)	Temporary and permanent impacts would be minimized and avoidance measures would be instituted as indicated in Section 2.6.5. Seasonal work windows shall be required for activities in Grayson and Walnut Creek channels (June 1 to October 31). Unavoidable permanent wetland fill may be mitigated through use of available conservation banks or in-lieu fees.

* Slip ramps are entry or exit ramps that connect local streets with freeway-to-freeway direct connector ramps.

Table S-1 Summary of Major Potential Impacts From Alternatives

Potential Impact	Phases 1 and 2		Phases 3, 4, 5	No Build Alternative	Cumulative	Mitigation/ Minimization
	Without Slip Ramps*	With Slip Ramps*				
Wildlife and Vegetation	Construction activities will require the removal of some trees	Construction activities will require the removal of some trees	Construction activities will require the removal of some trees	None	No additional impacts	Trees that provide nesting habitat would be avoided, if possible. If infeasible, replacement and/or replanting would occur as part of landscaping. Tree removal would be done prior to Feb. 15 of each construction year to avoid impacts to nesting birds
Floodplain	New pier at Grayson Creek will have minor increase (estimated at 1 inch) in flood water elevation	New pier at Grayson Creek will have minor increase (estimated at 1 inch) in flood water elevation	Additional piers and median widening encroach on floodplain	None	All five phases increase flood flow elevation by an estimated 3 inches	Project design revised to reduce restrictions in channel
Threatened or Endangered Species	Steelhead and chinook salmon habitat may be temporarily impacted	Steelhead and chinook salmon habitat may be temporarily impacted	Same as Phases 1 and 2	None	No additional impacts	Avoidance and minimization measures listed in Section 2.8.4 would be required of the contractor. These include seasonal restrictions or "work windows," restrictions on working within the creek channel area, requirements for storage and use of construction materials and equipment, erosion control, and monitoring if dewatering is necessary within a creek channel.

* Slip ramps are entry or exit ramps that connect local streets with freeway-to-freeway direct connector ramps.

Table S-1 Summary of Major Potential Impacts From Alternatives

Potential Impact	Phases 1 and 2		Phases 3, 4, 5	No Build Alternative	Cumulative	Mitigation/ Minimization
	Without Slip Ramps*	With Slip Ramps*				
Historic and Archaeological Preservation	Contra Costa Canal, a historical resource, is crossed by the project in Phases 1 and 2. Findings of the Historical Property Survey Report conclude that no historic properties would be affected.	Contra Costa Canal, a historical resource, is crossed by the project in Phases 1 and 2. Findings of the Historical Property Survey Report conclude that no historic properties would be affected.	Canal is also crossed by Phases 4 and 5; no historic properties affected	None	No additional impacts	No impacts are anticipated; however, if any cultural material is encountered or subject to impact, all work would stop until a qualified archaeologist makes an assessment and follows the appropriate protocol for the resource
Hazardous Waste Sites	Soils within project area may contain residual pesticides and lead.	Soils within project area may contain residual pesticides and lead.	Same as Phases 1 and 2	None	No additional impacts	All buildings acquired for the project would be investigated for contamination; soil and groundwater sampling may be carried out for four sites and for soils identified for grading or excavation; see Section 2.2
Visual	Phase 1 and 2 connectors will be visible from residential areas near freeways. Soundwalls will be added at specific locations	Phase 1 and 2 connectors will be visible from residential areas near freeways. Soundwalls will be added at specific locations	Phases 4 and 5 introduce additional ramps and soundwalls	None	Phases 1 through 5 add structures to already visible cloverleaf interchange.	Landscaping would be incorporated into the project to reduce visual impacts. Vines would be planted on soundwalls to reduce glare, visual dominance and to deter graffiti. Aesthetic treatments (color, texture and pattern), that are similar in design to existing walls within the corridor, would be applied to all sound and retaining walls.
Traffic and Transportation	Construction could result in some temporary traffic detours/delays	Construction could result in some temporary traffic detours/delays	Same as Phases 1 and 2	None	No additional impacts	Contractor will be required to minimize local traffic interruptions, and provide notification and signing
Energy	None	None	None	None	None	None
Growth Inducement	Possible	Possible	Possible	None	None	Existing land use controls

* Slip ramps are entry or exit ramps that connect local streets with freeway-to-freeway direct connector ramps.

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List of Abbreviated Terms

ABAG	Association of Bay Area Governments
APE	Area of Potential Effect
ASR	Archaeological Survey Report
BART	Bay Area Rapid Transit
BMP	best management practice
BNSF	Burlington Northern–Santa Fe (Railroad)
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCTA	Contra Costa Transportation Authority
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
cm	centimeters
CO	carbon monoxide
CRHR	California Register of Historic Resources
CRLF	California red-legged frog
CT	census tract
CWA	Clean Water Act
dBA	A-weighted decibel
DBH	diameter at breast height
DPP	Design Pollution Prevention
EDR	Environmental Data Resources, Inc.
ESA	Endangered Species Act
ESU	evolutionarily significant unit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHPM	Federal-aid Highway Program Manual
FHWA	Federal Highway Administration
ha	hectare
HOV	High-occupancy vehicle
I-680	Interstate 680
ISA	Initial Site Assessment
km	kilometer(s)
L_{eq}	Equivalent Sound Level
LOS	Level of service
M	moment magnitude
NAC	Noise Abatement Criteria
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
NOAA Fisheries	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWP	Nationwide Permit (U.S. Army Corps of Engineers)
O_3	ozone
Pb	lead
PM	Post mile
PM_{10}	particulate matter less than 10 micrometers in diameter
$PM_{2.5}$	particulate matter less than 2.5 micrometers in diameter

ppm	parts per million
PS&E	plans, specifications, and estimates
PSR	Project Study Report
ROG	reactive organic gases
RTP	Regional Transportation Plan
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SR	State Route
SR-4	State Route 4
SR-242	State Route 242
SWPPP	Storm Water Pollution Prevention Plan
TIP	Transportation Improvement Program
TNAP	Traffic Noise Analysis Protocol
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound

